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10/525,159	06/05/2007	Hiroyuki Ichiba	GUA-UTO-331	3245
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THE GATES CORPORATION			NGUYEN, VU Q	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/525,159	Applicant(s) ICHIBA, HIROYUKI	
	Examiner VU Q. NGUYEN	Art Unit 3657	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-8 and 10-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-8 and 10-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-8 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Document JP 5-248496 (JP '496) in view of European Patent Document EP 0767509 (EP '509).

Regarding claim 4, JP '496 discloses a transmission belt (11) comprising: a contact face (14b) contacting with a pulley (7, 8, 9, or 10) when said transmission belt is wound around said pulley (see Fig. 1), and a piece of foreign matter (16) embedded near said contact face and at a distance (d) from said contact face in said transmission belt (see Fig. 2); such that upon said contact face being worn by said pulley when said transmission belt rotates around said pulley, then said foreign matter is exposed at said contact face so as to warn of a decrease in the transmission power of said transmission belt on said pulley, wherein said foreign matter contacting said pulley makes a warning sound to warn of a decrease in the transmission power (see the provided English abstract).

Regarding claim 4, JP '496 does not disclose expressly that said piece of foreign matter has a longitudinal direction and said longitudinal direction of said foreign matter is substantially in the direction perpendicular to said contact face.

EP '509 teaches in Figs. 6-7, a wear indicator comprising a piece of foreign matter (18, 20, 21, or 22) having a longitudinal direction and said longitudinal direction of said foreign matter being substantially in the direction perpendicular to a contact face (outer face or surface of element 17 or 19) (see Figs. 6-7 and the last six paragraphs of the provided English machine translation).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the piece of foreign matter as taught by JP '496 to have a longitudinal direction substantially perpendicular to the contact face as taught by EP '509. The motivation for doing so would have been to provide greater, prolonged wear indication and further, to provide different degrees of wear indication (due to the conical shape of the piece of foreign matter, as taught by EP '509).

Regarding claim 5, see EP '509 and Figs. 6-7.

Regarding claim 8, see JP '496 and the provided English abstract disclosing a warning sound when the piece of foreign matter 16 contacts the pulley. The Examiner submits that the warning sound inherently has a specific frequency, as broadly recited.

Regarding claim 3, JP '496 does not disclose expressly that said foreign matter is softer than said pulley. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify either the foreign matter or the pulley as taught by JP '496 so that the foreign matter is softer than the pulley. The motivation for

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doing so would have been to merely provide a suitable, alternative material based on various design factors such as cost, availability, and manufacturability. The Examiner submits that material selection is a routine practice performed by those of ordinary skill in the art, and it is well-known to those of ordinary skill in the art that, relatively speaking, softer materials do not scratch or damage harder materials. The Examiner submits that prevention of damage to parts is obviously desirable to those of ordinary skill in the art.

Regarding claim 7, JP '496 does not disclose expressly that said piece of foreign matter is given a color, which is different from a color of other parts of said transmission belt.

EP '509 further teaches that the piece of foreign matter (18, 20, 21, or 22) is given a color, which is different from a color of other parts (see the 6th to last and 5th to last paragraphs of the provided English machine translation).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the transmission belt as taught by JP '496 so that the piece of foreign matter is given a color different from other parts as taught by EP '509. The motivation for doing so would have been merely to further provide an additional visual indication of wear that can be easily implemented.

Regarding claim 13, the claim is rejected for at least the same reasons as set forth above.

Regarding claim 14, the claim is rejected for at least the same reasons as set forth above. JP '496 further discloses a belt body (14), which is made of a

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predetermined material (a resilient material such as rubber; see the provided English abstract), having a certain thickness between a first surface (bottom surface as viewed in Fig. 2) of said belt body and a second surface (top surface as viewed in Fig. 2) of said belt body; and a piece of foreign matter (16), which is made of a different material (glass/metal; see the provided English abstract) from said predetermined material, embedded in said belt body at a distance (d) from said first surface; the distance from said foreign matter to the first surface of said belt body in the thickness direction being shorter than the distance from said foreign matter to the second surface of said belt body in the thickness direction (see Fig. 2).

Regarding claim 6, the claim is rejected for at least the same reasons as set forth above. JP '496 further discloses a plurality of pieces of said foreign matter (16) are embedded in said transmission belt (11), each said piece having a top, with said top closest to said contact face (14b) (see Fig. 2).

Regarding claim 6, JP '496 does not disclose expressly a distance in the perpendicular direction between said contact face and the top of at least one piece of said foreign matter being different from a distance in the perpendicular direction between said contact face and the top of another piece of said foreign matter.

EP '509 further teaches in Fig. 7, a plurality of pieces of said foreign matter (20, 21, 22), each said piece having a top, with said top closest to said contact face (outer face or surface of element 19); and a distance in the perpendicular direction between said contact face and the top of at least one piece of said foreign matter being different from a distance in the perpendicular direction between said contact face and the top of

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another piece of said foreign matter (see the 6th to last paragraph of the provided English machine translation disclosing the plurality of pieces of foreign matter having different lengths).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the plurality of pieces of foreign matter as taught by JP '496 to have different lengths as taught by EP '509. The motivation for doing so would have been to further provide different degrees of wear indication at different locations, thereby allowing for more versatile wear indication.

Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Document JP 5-248496 (JP '496) in view of European Patent Document EP 0767509 (EP '509) as applied to claims 3-8 and 13-14 above, and further in view of Japanese Patent Document JP 6-281517 (JP '517).

JP '496, as modified by EP '509, is relied upon as set forth above.

Regarding claim 10, JP '496 does not disclose expressly a sound sensor, which detects said specific sound, set up near where said transmission belt contacts said pulley; and a warning apparatus which sends out a warning according to said specific sound detected by said sound sensor.

JP '517 teaches a sound sensor (3), which detects a specific sound, set up near where a transmission belt (2) contacts a pulley (1a or 1b); and a warning apparatus (201, 206) which sends out a warning (as broadly recited) according to said specific sound detected by said sound sensor.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the apparatus as taught by JP '496 to include a sound sensor and a warning apparatus as taught by JP '517. The motivation for doing so would have been to merely provide a more versatile, robust system of wear indication that further ensures that any need to replace the transmission belt is known.

Regarding claim 11, the Examiner submits that rotation of the transmission belt 11 of JP '496 at any given speed will inherently cause the foreign matter 16 to contact the pulley at some cycle depending on its location, and thus make the specific sound appear at that cycle, as broadly recited.

Regarding claim 12, the Examiner submits that the combination as set forth above meets the limitation of the claim, as broadly recited.

Response to Arguments

Applicant's affidavits and arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

However, Applicant's arguments with respect to claim 3 may still apply. In response to Applicant's argument that the Examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the Applicant's disclosure, such a reconstruction is

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proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). The Examiner submits that it is *general knowledge* to those of ordinary skill in the art that, relatively speaking, softer materials do not scratch or damage harder materials. The Examiner submits that prevention of damage to parts is obviously desirable to those of ordinary skill in the art. Thus, one of ordinary skill in the art would be properly motivated to make the foreign matter 16 softer than the pulley of JP '496, even without knowledge of Applicant's disclosure.

Applicant also argues that JP '496 teaches away from making pieces of foreign matter soft. However, the Examiner submits that the term "soft" is a relative term. In other words, although Applicant may not consider the glass/metal of the foreign matter 16 disclosed by JP '496 to be "soft," if the pulley is harder than glass/metal, then the foreign matter 16 can be said to be relatively softer than the pulley, thereby meeting the claim limitation, as broadly recited. It should be noted that claim 3 does not recite the actual material of the foreign matter and/or the pulley--only that the foreign matter is softer than the pulley. Thus, the glass/metal of JP '496 is not clearly precluded by the claim. In fact, Applicant's own disclosure discloses that the foreign matter may be a metal or a plastic (see page 13, lines 21-23). Also note that the newly cited reference EP '509 teaches foreign matter being made of thermoplastic (see the last paragraph of the provided English machine translation).

Lastly, the Examiner submits that material selection is a routine practice performed by those of ordinary skill in the art based on various design factors such as cost, availability, and manufacturability.

For at least these reasons, the Examiner maintains that claim 3 is obvious.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VU Q. NGUYEN whose telephone number is (571) 272-7921. The examiner can normally be reached on Monday through Friday, 11:30 AM to 8:00 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Siconolfi can be reached on (571) 272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/V. Q. N./
Examiner, Art Unit 3657

/Robert A. Siconolfi/
Supervisory Patent Examiner, Art
Unit 3657